

(19) World Intellectual Property
Organization
International Bureau



543 099

(43) International Publication Date
5 August 2004 (05.08.2004)

PCT

(10) International Publication Number
WO 2004/065495 A2

(51) International Patent Classification⁷: **C09C 3/06, 1/40**

(21) International Application Number:

PCT/JP2004/000616

(22) International Filing Date: 23 January 2004 (23.01.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

2003-016402 24 January 2003 (24.01.2003) JP
60/443,529 30 January 2003 (30.01.2003) US

(71) Applicant (for all designated States except US): **SHOWA DENKO K. K.** [JP/JP]; 13-9, Shiba Daimon 1-chome, Minato-ku Tokyo, 1058518 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KOGOI, Hisao** [JP/JP]; c/o SHOWA TITANIUM CO., LTD. 3-1, Nishinomiyamachi, Toyama-shi, Toyama, 9318577 (JP).

TANAKA, Jun [JP/JP]; c/o Corporate R & D Center, SHOWA DENKO K. K. 1-1, Ohnodai 1-chome, Midori-ku, Chiba-shi, Chiba, 2670056 (JP).

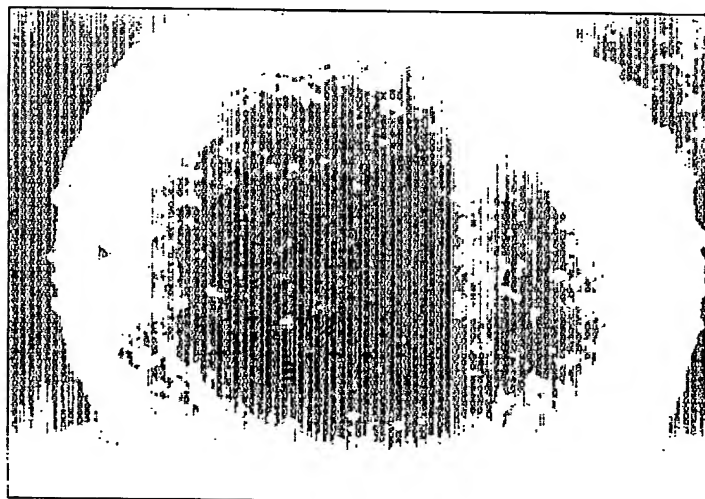
(74) Agents: **AOKI, Atsushi** et al.; A. AOKI, ISHIDA & ASSOCIATES, Toranomon 37 Mori Bldg., 5-1, Toranomon 3-chome, Minato-ku Tokyo 1058423 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,

[Continued on next page]

(54) Title: SURFACE MODIFICATION METHOD FOR INORGANIC OXIDE POWDER, POWDER PRODUCED BY THE METHOD AND USE OF THE POWDER



(57) Abstract: A surface modification method comprising bringing, into a high-temperature flame formed by use of a combustible gas and a combustion-supporting gas, inorganic oxide powder A having an average particle size falling within a range of 0.5 to 200 μm as measured by means of laser diffraction/scattering particle size analysis and inorganic oxide powder B having a particle size calculated on the basis of its BET specific surface area of 100 nm or less, to thereby modify the surfaces of particles of the powder A by means of the particles of the powder B. A surface modification method comprising bringing, into a high-temperature flame formed by use of a combustible gas and a combustion-supporting gas, the inorganic oxide powder A; and bringing again the resultant powder into the high-temperature flame, to thereby modify the surfaces of particles of powder A.

WO 2004/065495 A2



TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

- *without international search report and to be republished upon receipt of that report*